

AMENDMENTS TO THE CLAIMS

Claims 1-34. (Canceled)

35. (New) A pixel comprising:

a substrate;

a photoconversion device fabricated in said substrate, said device having a charge collection region; and

a reset region of a first conductivity type fabricated in said substrate and coupled to said charge collection region for resetting said charge collection region in response to a signal applied to said reset region.

36. (New) The pixel of claim 35, wherein said reset region functions with said charge collection region as an extended charge collection region, said extended charge collection region being reset by said applied signal.

37. (New) The pixel of claim 36 further comprising:

a source follower transistor for outputting a signal representing charge collected in said extended charge collection region;

a row select transistor for selectively outputting a signal from said source follower transistor; and

a capacitor in electrical communication with said reset channel region and said extended source follower transistor for storing charge collected in said charge collection region.

38. (New) The pixel of claim 36 further comprising a pulsed voltage source for causing said reset region to periodically reset said reset region and extended charge collection region.

39. (New) The pixel of claim 38, wherein said pulsed voltage source is coupled to one terminal of a capacitor, the other terminal of which is coupled to said extended charge collection region.

40. (New) The pixel of claim 38, wherein said first conductivity type is n-type and said second conductivity type is p-type.

41. (New) The pixel of claim 37, wherein said charge capacitor has a charge-per-unit area capacitance value of about 5 fF/ μm^2 to about 10 fF/ μm^2 .

42. (New) A pixel for use in an imaging device, said pixel consisting essentially of:

a charge collection region;

a reset region adjacent said charge collection region for periodically resetting a charge level of said charge collection region in response to an applied reset signal;

a source follower transistor for outputting a signal representing charge collected in said charge collection region;

a row select transistor for selectively outputting a signal from said source follower transistor; and

a capacitor in electrical communication with said reset channel region and said source follower transistor for storing charge collected in said charge collection region.

43. (New) A pixel as in claim 42, wherein said reset region functions with said charge collection region as an extended charge collection region, said voltage source resetting said extended charge collection region.

44. (New) The pixel of claim 42, wherein said capacitor has a charge-per-unit area capacitance value of about 5 to about 10 fF/ μm^2 .

45. (New) The pixel of claim 42, wherein said reset region is doped with an n-type dopant at a first dopant concentration.

46. (New) The pixel of claim 42, wherein said capacitor is connected to said reset region through a contact region.

47. (New) The pixel of claim 46, wherein said contact region is doped with an n-type dopant at a second dopant concentration.

48. (New) The pixel of claim 47, wherein said second dopant concentration is higher than said first dopant concentration.